

the *Hydra* forms the first step upward, in which the digestive cavity is a mere sac, which will work equally well inside-out, and the mode of reproduction is extremely simple. From this group we pass to the *Actinia*, in which there is a distinct stomach and a series of fleshy lamellæ around the internal cavity—the first rudiments of an isolation of the functions of digestion and generation; but the circulating fluid is only the elaborated chyle mingled with more or less water from without. A step further and we find separate organs for the functions of the liver and a circulating system in some Echinoderms. Through the Bryozoa the Infusoria are connected with the Tunicata and the other mollusks; and through the Rotifera and Entozoa they connect with the Articulata, thus passing by each way, out of the true Radiate type, into that which characterizes the higher subkingdoms. The Bryozoa, Rotifera and Entozoa may be arranged in the subkingdom Radiata, or with the Mollusca and Articulata, whose types of structure they exhibit, though under a Radiate form.

The Echinoderms, although so strikingly peculiar in some species, the *Echini*, yet, through the *Holothuria*, bear closely upon the Articulata; while the Acalephs incline toward the Mollusca.

In the above remarks, it is not attempted to trace out all the gradations in the groups referred to, but only the most prominent. The animal kingdom is throughout a network of affiliations, yet there are main trunks and larger branches, to which the smaller anastomosing ramifications are subordinate. Much study will be required before the system of nature from the Protozoa up can be correctly mapped out.

On two new species of Antelopes in the British Museum Collection.

By J. E. GRAY, F.R.S.

Senegal Gazelle. Gazella rufifrons.—Bay-brown (yellower in summer), with a paler upper and oblique lower black streak; front of face yellow bay; face-streak, back of feet, chest, belly and vent white; tail black; edge of anal disc dark; knees without any tuft, with a ridge of rather longer hairs nearly to the foot. Larger than *G. Dorcas*.

Var. Nose black in front; young paler.

Hab. Senegal. Purchased in Paris.

Easily known from *G. Dorcas* by the want of the knee-tuft. We have two males, two females and a kid. The *Corinne*, F. Cuv. Mam. Lithog. t. , not of Buffon.

Isabella Gazelle. Gazella Isabella.—Fur short, very soft; pale yellowish brown, with a broad, rather paler oblique streak on the upper part of the sides; knee-tufts, front of face and lower face-streak darker yellow-brown; upper face-streak, chest, belly, vent and inside of the limb white; tail black. Young paler, lower part of sides rather darker.

Hab. N. Africa: Egypt, J. Burton, Esq.; Cordofan, M. Sundevall. We have three males, one female and three young.

This species is known from *G. Dorcas* by the softness of the fur, the absence of the dark streak on the side and on the edge of the anal disc; both these species have the under sides of the feet and the back edge of the tarsus white, while in *G. Dorcas* there is a tuft of soft black hair under the feet, and the back of the tarsus is red.

METEOROLOGICAL OBSERVATIONS FOR JULY 1846.

Chiswick.—July 1. Fine: cloudy. 2. Densely clouded. 3. Cloudy: clear and fine. 4. Sultry: hot and dry. 5. Excessively hot: showers: cloudy. 6. Fine: heavy showers. 7. Overcast and fine. 8. Overcast: rain. 9. Overcast: heavy rain. 10. Showery. 11. Overcast: light clouds and fine. 12. Clear and fine. 13. Cloudless and hot. 14. Hot breeze. 15. Overcast: fine. 16. Rain: densely overcast. 17. Cloudy and fine. 18. Constant rain: cloudy and fine. 19. Showers. 20. Very fine. 21. Fine: cloudy. 22. Hot and dry. 23. Cloudy: clear and fine. 24. Overcast: rain. 25, 26. Very fine. 27—29. Cloudy and fine. 30, 31. Very hot.

Mean temperature of the month	65°·46
Mean temperature of July 1845	61·43
Mean temperature of July for the last twenty years ...	62·96
Average amount of rain in July	2·38 inches.

Boston.—July 1. Fine: rain P.M. 2. Fine. 3. Cloudy: 3 o'clock P.M. thermometer 80°. 4. Fine: 4 o'clock P.M. thermometer 84°. 5. Fine: 10 o'clock A.M. thermometer 87°: 12 o'clock A.M. 90°: hail and rain, with thunder and lightning, accompanied with a tremendous wind P.M.* 6. Windy: rain P.M. 7. Windy. 8. Cloudy: rain P.M. 9. Rain: rain P.M. 10. Rain. 11. Cloudy. 12. Fine. 13. Cloudy. 14. Fine: 3 o'clock P.M. thermometer 81°. 15. Fine. 16. Fine: rain P.M. 17. Fine. 18. Cloudy: rain P.M. 19. Cloudy. 20. Fine. 21. Cloudy: rain P.M. 22, 23. Cloudy. 24. Cloudy: rain P.M. 25, 26. Fine. 27. Cloudy: rain early A.M. 28. Cloudy: 2 o'clock P.M. thermometer 81°. 29—31. Fine.—I cannot find so hot a month in all my journal except last month.

Sandwich Manse, Orkney.—July 1. Cloudy. 2. Cloudy: rain: clear. 3. Rain: cloudy. 4. Drizzle: clear. 5. Cloudy: rain. 6. Cloudy: drizzle: showers. 7. Drizzle: showers. 8. Bright: clear. 9. Cloudy: clear. 10. Bright: cloudy. 11. Cloudy: rain. 12. Fog. 13. Fog: rain. 14. Cloudy. 15. Showers: clear. 16. Bright: clear. 17. Cloudy: showers. 18. Bright: drizzle. 19. Showers: clear. 20, 21. Bright: showers. 22. Fog: showers: clear. 23. Cloudy: drops: clear. 24. Cloudy: clear. 25. Bright: drops. 26. Clear: cloudy. 27. Bright: cloudy. 28. Showers: clear. 29. Clear: fine. 30. Bright: fine. 31. Fog: fine.

Applegarth Manse, Dumfries-shire.—July 1. Showers all day. 2. Showers A.M.: fine P.M. 3. Wet morning: cleared. 4. Fair and fine. 5. Fine A.M.: thunder and rain P.M. 6. Tremendous rain. 7. Very fine. 8. Rain P.M. 9. Rain. 10. Fair and fine. 11. Fine: slight drizzle. 12. Wet morning: cleared. 13. Fair, but threatening. 14. Very fine. 15. Showers P.M. 16. Showery. 17. Fine: showers. 18. Slight showers. 19. One slight shower. 20. Fine: slight shower. 21, 22. Showery all day. 23. Wet all day. 24. Showers. 25. Fair and fine. 26. Rain P.M. 27. Drizzly. 28. Dropping day. 29—31. Fine: fair.

Mean temperature of the month	59°·2
Mean temperature of July 1845	56·2
Mean temperature of July for 23 years	58·1
Mean rain in July for 18 years	3·90 inches.
Mean rain in July	5·79 „

* The hottest day since 31st July 1826.